

## CLAIMS

1. A fluorescence measuring apparatus for emitting a plurality of excitation pulse components toward a specimen and for measuring fluorescent components emitted from the specimen corresponding to the respective excitation pulse components, said  
5 fluorescence measuring apparatus comprising:

a photoelectric converter for implementing photoelectric conversion of a fluorescent component emitted from the specimen;

a charge storage element for storing a charge resulting from  
10 the photoelectric conversion by said photoelectric converter and for transferring the charge stored; and

a controller for outputting an electronic shutter signal for sweeping away the charge resulting from the photoelectric conversion by said photoelectric converter, a readout signal for reading the charge  
15 resulting from the photoelectric conversion, into said charge storage element, and a transfer signal for sequentially transferring the charge read,

wherein said controller outputs the electronic shutter signal corresponding to generation of a pulse component included in the  
20 excitation light, outputs the readout signal corresponding to output of said electronic shutter signal, and outputs the transfer signal per at least two readout signals outputted.

2. A fluorescence measuring apparatus according to claim 1, wherein the excitation pulse components are of a substantially  
25 identical waveform and identical period, and

wherein the fluorescent components are of a substantially

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identical waveform and identical period.

3. A fluorescence measuring apparatus according to claim 2, wherein said controller outputs the electronic shutter signal and the readout signal so as to enable measurement of an identical waveform part in each of the fluorescent components.

4. A fluorescence measuring apparatus according to claim 1, wherein said controller outputs the electronic shutter signal and the transfer signal consecutively before emission of the fluorescent components.

5. A fluorescence measuring apparatus according to claim 1, wherein said charge storage element comprises a first charge storage element for directly receiving the charge from said photoelectric converter, and a second charge storage element for receiving the charge from said first charge storage element, and

wherein said controller outputs the transfer signal per predetermined number of readout signals outputted, to said first charge storage element and consecutively outputs the transfer signal to said second charge storage element.

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